

REMARKS/ARGUMENTS

Favorable reconsideration of this application, as presently amended and in light of the following discussion, is respectfully requested.

Claims 1-8 and 13 are currently pending in the application. Claims 3-8 and 13 are amended to correct minor informalities noted in the Office Action and cosmetic matters of form. No new matter is added.

This amendment is submitted in accordance with 37 C.F.R. § 1.116, which after final rejection permits entering of amendments canceling claims, complying with any requirement of form expressly set forth in a previous Office Action or presenting the rejected claims in better form for consideration on appeal. The present amendment amends Claims 4-8 and 13 to comply with requirements of form expressly set forth in the previous Office Action, and amends Claim 3 to correct a minor informality. It is therefore respectfully requested that the present amendment be entered under 37 C.F.R. § 1.116.

In the Office Action, Claims 4-8 and 13 were objected to because of minor informalities; Claims 3-8 were rejected under 35 U.S.C. § 112, first paragraph; and Claims 1-7 and 13 were rejected under 35 U.S.C. § 103(a) as unpatentable over Crawford et al. (U.S. Pub. 2003/0002471, herein Crawford) in view of Fig. 2 of the instant application.

Claims 4-8 and 13 were objected to because of minor informalities. In response, Claims 4-8 and 13 are amended in accordance with the recommendations set forth in the Office Action, with one exception. The phrase “an open/close switch” in Claim 7 is not changed to “the open/close switch,” as recommended, because this phrase is intended to refer to a subset of the “an open/close switch coupled between each of said plurality of receiving antennas and said each carrier restoring section” previously recited in this claim.

Accordingly, Applicants respectfully request that the objection to Claims 4-8 and 13 be withdrawn.

Claims 3-8 were rejected under 35 U.S.C. § 112, first paragraph, as failing to comply with the enablement requirement. Applicants respectfully traverse this rejection.

The Office Action asserts that “the configuration of claims 3 and 5-6 contains subject matter which does not correspond to the disclosure of Figure 4... [f]or example, claims 3 and 5-6 recite the power controlling section (22) selects an antenna (11) of a received signal... [h]owever as shown in Fig. 4, the switch controlling section (23) controls the switches (12-1 to 12-L) to select one of the antennas (11-1 to 11-L).” Claim 3, however, does not recite that the power controlling section “controls the switches... to select one of the antennas” as asserted in the Office Action. Instead, Claim 3 recites that the “power controlling section is ***configured to select*** a receiving antenna for a signal reception...” Then, as is clearly depicted in Fig. 4, a “RESULT OF ANTENNA SELECTION” is output from the power controlling section 22 to the switch controlling section 23, which then controls each of the switches 12-1 to 12-L. Therefore, Applicants do not dispute that the switch controlling section 23 controls the switches 12-1 to 12-L, but this control is based on the power controlling section 22 “***selecting*** a receiving antenna for a signal reception signal,” and outputting a signal to the switch controlling section 23 to directly control the switches. Therefore, as disclosed in an exemplary embodiment at least at Fig. 4 and p. 22, l. 7-p. 24, l. 2 of the specification, the power controlling section 22 does “select a receiving antenna for signal reception,” as recited in Claim 3. Further, the power controlling section also does, albeit indirectly via the switch controlling section 23, control the switches to select an antenna.

Accordingly, Applicants respectfully request that the rejection of Claims 3-8 under 35 U.S.C. § 112, for paragraph, be withdrawn.

Claims 1-7 and 13 were rejected under 35 U.S.C. § 103 as unpatentable over Crawford in view of Fig. 2 of the instant application. Applicants respectfully traverse this

rejection as independent Claims 1 and 13 recite novel features clearly not taught or rendered obvious by the applied references.

Independent Claim 1 is directed to an orthogonal frequency division multiplexing (OFDM) receiving apparatus for selectively using a plurality of OFDM reception signals.

Claim 1 recites, in part, that the OFDM receiving apparatus comprises:

a sub-carrier selecting section configured to compare powers of output signals from said each carrier restoring section provided for each sub-carrier, and selectively combine the powers of said output signals for each sub-carrier; and
a power controlling section configured to ***control power supplied to said each carrier restoring section***, based on sub-carrier selection information from said sub-carrier selecting section.

Independent Claim 13, while directed to an alternative embodiment, recites similar features. Accordingly, the remarks and arguments presented below are applicable to each of independent Claims 1 and 13.

As described in an exemplary embodiment at Fig. 4 and p. 22, the power supplying operations of the enable controlling circuits 21-1 to 21-L are controlled by a power controlling section 22. The power controlling section 22 determines the power supply operations for the enable controlling circuits 21-1 to 21-L based on sub-carrier selection information, and outputs a command signal to each of the enable controlling circuits so as to shut off power supplied to each circuit module.

Turning to the applied reference Crawford describes a scheme for estimating the carrier-to-noise-plus-interference ratio (CNIR) for OFDM waveforms that makes use of a physical waveform frame structure including a diversity selection portion.¹ A first set of measurements are taken from an antenna branch on non-zero OFDM frequency bins, and a second set of measurements are taken from an antenna branch on zero OFDM frequency bins, and an estimate for CNIR for at least one of the non-zero OFDM frequency bins and at least

¹ Crawford, Abstract.

one of the zero OFDM frequency bins of the antenna branch is then computed using the first and second sets of measurements.

Crawford, however, fails to teach or suggest “a power controlling section configured to ***control power supplied to said each carrier restoring section***, based on sub-carrier selection information from said sub-carrier selecting section,” as recited in Claim 1.

In addressing the previously presented arguments regarding this claimed feature, p. 3 of the Office Action concedes that “the diversity antenna selection module 600 does not explicitly show or suggest controlling power supplied to each of the RF receivers 104, 106, the examiner agrees that the diversity antenna selection module 600 is not directly controlling power supplied to each of the RF receivers 104, 106...” The Office Action then asserts that “inherently, the diversity antenna selection module 600 is indirectly controlling power supplied to each of the RF receivers 104, 106, for example, when the switch 101 is open or disconnected with the RF receiver 104 and/or the RF receiver 106 controlled by the diversity antenna decision 642...” Applicants respectfully traverse this assertion, as the features of independent Claims 1 and 13 are not inherent based on the description in Crawford.

The Office Action asserts that the diversity antenna selection module indirectly controls power to each of the RF receivers 104, 106 based on the position of switch 101. However, as depicted in Fig. 1 of Crawford, the switch 101 is located between the RF receivers 104, 106 and the antenna elements A. Thus, the switch is used to connect each of the RF receivers 104, 106 to one of the antenna elements A, and not to connect the RF receivers to a power source. More particularly, in a conventional OFDM receiver such as described in Crawford, the RF receiver sections 104, 106 are not powered by an antenna element or a signal received via the antenna element, but are instead powered by a power source internal to the receiver. Thus, the switch 101 controls the antenna element A to which

each of the RF receivers 104, 106 are connected but does not ***control power supplied to said each carrier restoring section***, as recited in independent Claim 1.

Further, “[i]n relying upon the theory of inherency, the Examiner must provide a basis in fact and/or technical reasoning to reasonable support the determination of the allegedly inherent characteristic necessarily flow from the teachings of the applied prior art.” See Ex parte Levy, 17 USPQ2d 1461, at 1464 (Bd. Pat. App. & Inter. 1990) and M.P.E.P. § 2112.

Because the switch 101 of Crawford controls an antenna element A to which each of the RF receiver sections 104, 106 are connected, does not necessarily mean that power to the RF receiving sections 104, 106 is also controlled. More particularly, as described at paragraph [0048], Crawford is a diversity antenna reception system in which both of the RF receiving sections are simultaneously connected to one of the receiving antenna elements A, via the switch 101. Thus, Crawford fails to teach or suggest a situation in which one of the RF receiving sections 104, 106 is not connected to an antenna element A to receive an active signal. Further, as noted above, even in a case where one of the RF receiving sections 104, 106 may not be connected to an antenna element, it is not necessarily the case the device ***control power supplied to said each carrier restoring section***, as recited in independent Claim 1.

Therefore, Crawford, neither alone, nor in combination with Fig. 2 of the instant application, teach or suggest an OFDM receiving apparatus, as claimed, comprising “a power controlling section configured to ***control power supplied to said each carrier restoring section, based on sub-carrier selection information from said sub-carrier selecting section***” as recited in Claim 1.

Accordingly, Applicants respectfully request that the rejection of Claim 1 (and Claims 2-8 which depend therefrom) under 35 U.S.C. § 103 be withdrawn. For substantially similar

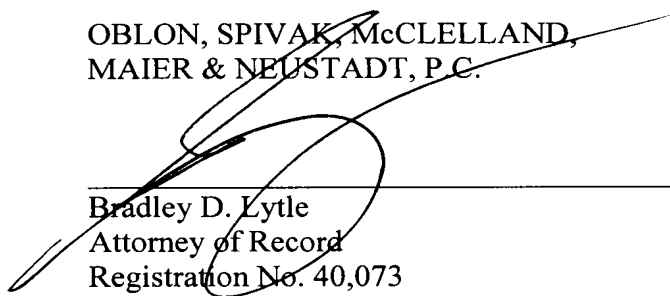
reasons, it is also submitted that Claim 13 patentably defines over Crawford and/or Fig. 2 of the instant application.

Further, p. 3 of the Office Action notes that “based on Applicants arguments, the rejection of claim 8 has been withdrawn.” Applicants appreciatively acknowledge the indication of allowable subject matter. However, since Applicants consider that independent Claim 1 patentably defines over the applied reference, Claim 8 is presently maintained in dependent form.

Consequently, in view of the present amendment and in light of the foregoing comments, it is respectfully submitted that the invention defined by Claims 1-8 and 13 is patentably distinguishing over the applied references. The present application is therefore believed to be in condition for formal allowance and an early and favorable reconsideration of the application is therefore requested.

Respectfully submitted,

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